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Agricultural Education

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Our Leadership in Agricultural Education

Future Farmers of America Section

"We possess as yet but small fragments of scientific knowledge as to the most effective means and methods of education."
—DAVID SNEDDEN.

EDITORIAL COMMENT

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RESEARCH IN AGRICULTURAL EDUCATION

OUR most prosperous corporations have come to regard it good business to set aside 1 to 5 percent of their incomes for research upon their fundamental problems.

One percent of the cost of our national program of vocational education in agriculture in 1928–29 is $92,216. No one would probably claim that even this small proportion was spent in that year upon work which could be dignified with the name of research.

This situation does not exist because we lack problems upon which research might profitably be done. Our field is teeming with such problems. Most of our fundamental problems exist in practically the same form that they existed in 1917. We meet in our state, regional, and national gatherings year after year and discuss them; each year we are driven to admit that we do not have the facts with which to solve them.

Nor are our problems insoluble. Some of them must be answered, of course, in terms of our individual senses of judgment, our varying scales of value. But in the majority of cases we are agreed as to the values we are seeking; we disagree as to the means whereby those values may be attained because we are short on obtainable objective facts.

One reason why we have not had more productive research is that we have depended for research upon the work of amateurs. Most of our published results have grown out of Master's and Doctor's theses. We have failed to set aside time for research for those who are already competent and experienced. It is time to recognize that real research is an arduous art, scarcely learned in a lifetime. This does not mean that Master's and Doctor's theses may not be made to contribute toward a research program. But it is from experienced specialists that we expect most of the contributions of worth.

THE FEDERAL GOVERNMENT AND RESEARCH

IN THE philosophy of a great and increasing number of persons, including the present Commissioner of Education, Dr. Cooper, the primary functions of the Federal government in education is a research function.

States are unwilling to accept dicta from higher up which are based alone on the arbitrary opinions of Federal authorities. If there has been ample research, the results of which are generally accepted, there need be no such arbitrary rulings.

To avoid the wasteful expenditure of Federal funds according to the whims of unscientific and opinionated state and local officials, the Federal government should encourage to the utmost the development of scientific principles which will be accepted and observed by all who participate in the Federally sponsored program.

Such a body of generally accepted principles would afford the greatest assistance that could be imagined in making more congenial the relationships between the states and the Federal government, for it would make unnecessary and uncalled for arbitrary rulings by Federal officials.

Up-to-date research has not received much recognition at the Federal level. Almost five million dollars will be available eventually, under legislation already passed, for the salaries of instructors, supervisors, and teacher trainers in agriculture. Some undesignated small fraction of $300,000 annually, from the fund set aside for the Federal Board for Vocational Education, is available for research in all four fields: agriculture, home economics, trades and industry, and commerce.

A new policy with respect to research by the Federal Board seems to be developing. Dr. F. W. Lathrop, new specialist in research in agricultural education for the Board, has stated it in terms which all can approve. He deserves full support and many more resources than are now in his hands, together with more freedom in carrying out his plans for research than anyone has thus far been given.

It must be conceded, however, and Dr. Lathrop does concede, that most research will have to be carried on in the states. The Federal Board can encourage, subsidize, and co-ordinate to better advantage than it can actually conduct research studies.

THE A. V. A. AND RESEARCH

THE American Vocational Association has been providing a certain stimulus to research in agricultural education by bringing before its conventions and printing in its Bulletin the results of investigations. It might do much more.

Such an organization ought to have a definite policy of encouraging research along a variety of lines. Thru it individuals might be brought together and groups launched upon promising lines of investigation. Its influence might be used to provide research workers with needed facilities. It could be a leading agency for disseminating the results of research.

THE TEACHER AND RESEARCH

INCREASINGLY, research is being carried out co-operatively. The teacher plays an important part in co-operative research by suggesting, in a crude form, problems for study; by gathering data to help in their solution; by interpreting and criticizing results in the light of his practical experience; and by trying out and utilizing the products

To some extent teachers may be expected to carry on independent studies, but usually they will choose to delegate the direction of research to those who are better trained for research and who are freer from other duties.

Teachers can perhaps help most of all by creating a demand for research and by developing sentiment in support of the work of researchers.

The interest and support of the entire profession is necessary if we are to have an adequate research program.

* * *

EDITORIAL CHANGES

BEGINNING with the April issue, the issue now in process of preparation, Dr. Sherman Dickinson of the University of Missouri will assume the editorship of *Agricultural Education*. The present editor will serve as associate editor. There will be no change in fundamental policies. Copy for the magazine should henceforth be sent to Dr. Dickinson at Columbia, Missouri. Details regarding this change will be announced in the March issue.

On the recommendation of Mr. Henry C. Groseclose, executive secretary, and Dr. C. H. Lane, adviser, editorship of the Future Farmer section of the magazine is assumed this month by Mr. H. O. Sampson, state supervisor of New Jersey, chairman of the publicity committee of the Future Farmers of America. Copy will reach him at Trenton, New Jersey.

A Proposed Program of Research

DR. F. W. LATHROP, Specialist in Research in Agricultural Education,
Federal Board for Vocational Education

(A paper read before the Agricultural Section of the American Vocational Association at New Orleans, December 6, 1929.)

THOSE who are engaged in agricultural education are constantly studying their programs in order that they may improve them. A part of the time their observations give them impressions or suggest trends; at other times they consciously study their problems in an organized way for the purpose of arriving at solutions. This definite and organized study is what I designate as research.

Research Fields

To illustrate, a state supervisor wishes to determine all the locations in his state where he may hope to have agriculture departments eventually. By a study of the forces which have operated to develop his strong departments and also by a study of those forces which have killed off others, he arrives at standards which he may apply to all the situations in the state and thus determine potential locations. This supervisor has reached the solution of a problem by means of conscious organized study and he has made a contribution toward the solution of this same problem by other state supervisors.

Our public school systems and industrial organizations have seen fit to provide for such research as a part of their organization. I assume that we are not interested in research for its own sake; it has value for us only to the extent that it contributes toward the solution of our problems. To justify it, I believe no further statements are necessary.

I have been asked to propose a program of research in agricultural education. I can do this only in part. It is evident that the problems and difficulties of the various state programs constitute the research programs of those states. The title of my discussion should not suggest an attempt of someone outside your state to determine what your problems are and therefore what your program of research is. I will discuss rather the ways in which the programs of research in the states are related to the research activities of the Federal Board for Vocational Education.

First, may I sketch briefly what has been done in research in vocational agriculture up to the present time. I have listed the studies made in the various states which list I think is fairly complete. It seems possible to classify these studies under eleven headings. I will give you these headings with some examples under each heading:

1. Supervision and administration of state programs.
   (Problems such as teacher tenure, the placement of departments, and the technique of supervision come under this head.)
2. The training of teachers.
   (For example, studies of the teacher's job and a survey of training in service.)
3. The curriculum in vocational agriculture.
   (Studies of farming practices as related to the selection of subject matter and studies of procedures for making courses of study are examples.)
4. Supervised practice.
   (The determination of the difficulties in supervised practice and the relation of supervised practice to course content are included.)
5. Studies of prospective and actual vocational pupils.
   (For example, studies of rural areas to discover pupils, pupil personnel, the intelligence of vocational pupils.)
6. The results of vocational agriculture.
   (Studies of the occupations of graduates, the effect of vocational agriculture on agricultural college enrollment.)
7. Methods of teaching.
   (For example, a study of the survey method of teaching.)
8. Problems of special groups.
   (Studies of part time and evening schools in a state would be included here.)
9. Vocational guidance as related to vocational agriculture.
   (For example, a study of guidance in the rural high school.)
10. Surveys of vocational education in agriculture.
    (For example, surveys in Mississippi, New York, West Virginia, Florida, Virginia.)
11. The history of vocational agriculture.
    (For example, the history of vocational agriculture in Mississippi.)

Problems for Research

This brief outline of the research completed suggests to me that there is still need for studies under most of these eleven headings. I am not able to point out all the studies needed but the few statements following will suggest some of the possibilities:

a. We have not studied adequately our potential and actual pupils. Some of the problems are: (1) Elimination of potential vocational pupils in the grades; (2) the factors which influence boys to enroll in vocational agriculture; (3) farm boys in high school but not enrolled in agriculture.

b. Many states have studied the occupations of graduates and these studies are very much worth while. Our present need is for studies of the earning power and social efficiency of vocational graduates who have been out of school long enough to become established in their communities.

c. Before we can measure the effects of teaching and supervision we must have measuring instruments. Our information tests have proved useful but our special need is for what we may call performance tests.

d. Further studies of the factors determining teacher tenure will help us to strengthen one of the weakest parts of our program.

e. The selection of trainees is one of the most vital of our teacher training problems. In the smaller institutions, especially, the selection is tied up with the problem of agricultural college enrollment. Increase of enrollment will usually give better possibilities for selection. The solution of the agricultural college enrollment problem will greatly benefit teacher training whether this solution is worked out by persons inside or outside of our group.

f. We have few studies in one of the most important parts of our program; that is, supervised practice. We need to study our teacher training in its relation to supervised practice and the practices of successful teachers in respect to supervised practice.

g. The problem of vocational guidance for rural boys is almost untouched.

These are a few suggestions in a very fertile field.

The Federal Share

As the states attack these and other problems, there are three relationships between the Federal Board and the states which have a bearing on a program of research. I will refer to these briefly.

The first may be called the clearing house relationship. The Federal Board, according to plans now under way, will become a source of information on studies completed and in progress in the several states. Each state may learn what other states have done and are doing toward the solution of any problem in vocational agriculture.

The Federal Board, in turn, needs the co-operation of the states in making known the studies in which they are engaged and the studies which they have completed. The logical next step is a bibliography of the studies in agricultural education. We are now engaged in assembling such a bibliography which will be continuously revised as each new study is completed.

The advisory relationship of the Federal Board is the second to which I wish to refer. Each state has competent research workers. One indication of their competency is that they are desirous of the suggestions and advice of other research workers. We sometimes think of a research worker as one who sets himself apart in order to work out his problem. On the other hand, it is probable that the soundest research is done by persons who are constantly exposed to the reactions and suggestions of other workers. The quality of our research is important. There is no surer way of increasing our prestige outside our own field than by producing a high quality of research. The research specialist of the Federal Board, because of his contacts with a large number of studies, should be able to assist other workers by means of suggestion and advice and so make a

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New Aspects of Farmer Training

JOHN T. WHEELER, Professor of Rural Education, Georgia State College of Agriculture

INTRODUCTORY Statement. Out of the accumulated experience of the past 12 years, new patterns of vocational education in agriculture are being formulated. These new patterns are as yet only in rudimentary form, but still they are taking on definite proportions, and are clearly discernible to many who are following closely the progressive developments in farmer training in this country.

The fact that new patterns of farmer training in vocational education in agriculture are perceptibly visible at the present time should not in any way be the cause of alarm, for, as I see it, they are born not of any radical shifts in administrative policy of the Federal Board for Vocational Education nor of any revolutionary movements within the several states against any elements of the old program. The appearance of these new patterns are due to a healthy evolutionary development and they are, on the whole, made up of the elements of the old program, with perhaps some additions. There are, however, new points of view, new places of emphasis, new means of approach, and new arrangements of the elements within the new patterns.

In order that I may make myself clear in this connection, I wish to bring out four things: (1) to recall with you the elements and structure and development of the old and prevailing patterns of farmer training; (2) to indicate the elements and structure of a new pattern; (3) to make some comparisons of the old and the new patterns of vocational education in agriculture; (4) to let you draw your own conclusions as to the future.

* * * *

Elements of the Old Pattern. First, then, you will recall with me that more than 20 years ago, Mr. Rufus W. Stimson, at the Smith School of Agriculture, at Northampton, Massachusetts, developed and put forth the "home project plan" of agricultural teaching; and, I think you will agree with me, that thru this project plan he made the outstanding contribution of the generation to agricultural instruction. In fact, he set the die thru which a plastic program of vocational education in agriculture was molded, not only for the state of Massachusetts, but for the entire nation.

Stimson's home project plan was simple, workable, easily explained, and appealing, and, therefore, was readily accepted. It had four factors in its structural makeup, according to its author: (1) the instructor; (2) the home farm; (3) the boy; (4) the state supervisor. Around these structural factors has been built a definite pattern of farmer training thru the public schools of America.

Setting the Pattern. In the center of the pattern is an ideal situation of the boy and the *home* farm; about this center we find the instructor with his school connections typifying learning and helpful direction to the boy with his home project; and on the border of the pattern the state supervisor stands extending a helping hand to the teacher in assisting him to ever greater heights of proficiency in training the young farmers under his charge.

* * * *

Fixing the Pattern. Prior to the advent of the National Educational Act of 1917, several states had then incorporated Stimson's home project plan into their programs of teaching agriculture, and when the vocational program under the Smith-Hughes Act was being formulated (1917–18), the Federal Board for Vocational Education, wishing more to be right than original, definitely fostered, developed, and extended this plan of vocational education in agriculture until it became the national pattern of agricultural instruction.

Thru subsequent years this pattern has become "fixed" to a degree almost beyond comprehension.

This pattern has stood the test of time and has never been challenged as to its factors, its form, or its efficiency, and I am not now challenging it. I am, however, going to present a new pattern, not from the figments of the imagination, but from the facts as I see them developing all about us: a pattern that is being developed to meet the inadequacies of the old.

* * * *

The New Pattern. In the new pattern, about which I shall speak, I see all four of Stimson's factors, but they have a new arrangement and additional elements standing out prominently. In this new pattern we find, in addition to the farm, the school boy, the instructor, and the supervisor, two new human elements: (1) the farmer himself, and (2), an "unidentified farm youth."

In the first place, the new pattern shows the farmer as the operator, if not the owner, of an industrial unit. This farming unit we find must be operated very economically to insure any profit. In trying to make this unit economically profitable, we find this farmer confronted with new farming problems that are complicated and baffling. He is, however, intensely interested in understanding these problems to the end of improving his production unit, if not always the industry of which it is a part.

In the second place, in this new pattern we see along with these farmers, a million and a quarter farm boys and young men, who are not now being reached or included under our present "in school" vocational organization, which now pervades our national program of vocational education in agriculture. These boys and young men are appropriately termed, by Dr. R. M. Stewart, of Cornell University, our "unidentified farm youth." They are unidentified in the old pattern, but they stand out in the new.

You may say that our national farmer training program has always recognized both of these human elements; and I must reply: "Yes, it has always recognized them, but it has quite consistently or inconsistently excluded them by adopting a training pattern in which they had little hope of participating. For instance, it is apparent that the Federal Board for Vocational Education, in its earliest statement of administrative policy, recognized these groups in the following statement which is incidentally thrown into an elaboration and explanation of the project plan: "It is *also possible* to set up part-time and evening schools in vocational education in agriculture."

The national program reflects this statement: There may exist the possibility of having also part-time and evening schools, but it is not probable that they will appear in the old pattern. We have recognized the fact that, if these types of classes appeared at all, they must come outside the project pattern.

Our national experience bears out this assumption of improbability. For to the present moment we have reached on the average, less than two dozen of these "unidentified youths" per state per year. On the other hand, in several states evening classes for adults are taking definite form outside the old pattern, and, in these states, the new pattern that I am attempting to portray is rapidly growing up.

* * * *

The Farmer, the Boy, and the Farm. We have, then, as the center of this new pattern of vocational education in agriculture, the farmer, the boy, and the production unit that the farmer and the boy or boys operate. This is a normal home farm situation as old as the industry in which it is found. It does not exclude the boy who is not in attendance on the traditional high school, nor does it eliminate him if he is continuing his "in school" education. The entire normal production unit with its natural home farm environment, and its parental relationships are maintained at the pattern's center.

The father is a learner together with the boy or boys; he initiates and inaugurates improvements in the production unit. He helps create a situation where boys can learn improved methods of farming. In this pattern we do not expect to find the farm boy doing the impossible; we do not hope to see him single-handed reorganize the whole economic unit of production, the home farm, as a training problem. In the new pattern, the boy is not used as a means of improving farming and farming conditions, but the farm is used as a means of improving the boy's abilities in dealing with farming problems.

The Instructors. Now with the farming unit at the center of this pattern and the farmer and the boy as co-learners and doers, we have the beginnings of what I think might be appropriately termed "apprenticeship farmer training."

The vocational teacher comes next in this pattern makeup, and thru appropriate instructional classes and devices, builds the training program which may be made up of as many units as there are farming units represented in the community he serves.

The vocational teacher is not alone in dealing with the boy and his instructional problems. The father, as a learn-

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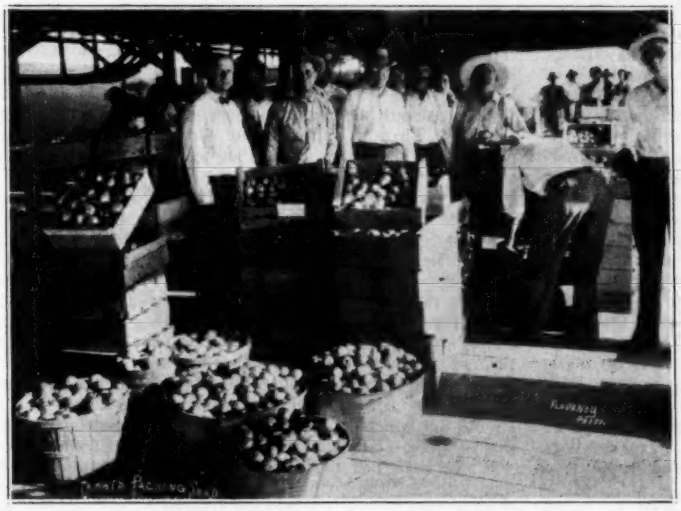
Vocational Agriculture and the Chamber of Commerce

C. L. DAVIS, State Supervisor, Texas

OUR experience with the combination job of teacher of vocational agriculture and agricultural worker with the Chamber of Commerce extends thru a period of 10 years.

We started 10 years ago with one combination job, increasing the number gradually until for the current year we have 25 departments whose teachers devote a part of their time to Chamber of Commerce activities (a part of the salaries of these teachers being paid by the Chamber of Commerce). It is interesting to note that the first place to try out the combination job is still strong for it.



Scene at a tomato packing shed at Yoakum, Texas

In the smaller towns the teacher of vocational agriculture is usually the secretary. He usually has the services of at least a part-time stenographer. In larger towns (3,000 to 5,000 population) he is in charge of the agricultural program of the Chamber of Commerce.

In our judgment the latter is the more desirable combination, offering the advantages of financial and moral support without the disadvantages that may go with responsibility for collecting funds, for holding trade days, and as general flunky for the business men of the town.

The opinions of some of the teachers, presidents of Chambers of Commerce, and superintendents of schools in situations where the combination work has been carried on are reflected in the following extracts from their statements:

Ben Whitehouse, teacher of vocational agriculture and in charge of the agricultural program at Ranger, a town of 16,000 population, states that, "Personally, I think where the vocational teacher does not have to do any of the secretarial work and gives all of his time to agricultural work, the combination is the best 'hook-up' in the present system."

Henry Ross, teacher of vocational agriculture and secretary of the Chamber of Commerce at Kerens, population 2,000, says: "The disadvantages, which are few, are: that the time of the teacher is required by the Chamber of Commerce to attend to the regular routine duties of the office of the Chamber of Commerce such as notifying members of meetings, collecting dues, paying bills, keeping records of meetings and committee work. No accurate check has been made as to the exact amount of time necessary to do this work, but it does not exceed two hours per day during the summer and fall and not over one hour per day during the winter and spring. Contacts made by carrying on these activities of the chamber are of much value in opening up the way for carrying out his program.

"Advantages accruing to the vocational agriculture teacher's program by virtue of his carrying on the program of the Chamber of Commerce in agricultural work are: that the Chamber of Commerce agricultural program includes practically the same projects that the teacher's program contains in the nature of agricultural promotion such as putting on a community fair, the organization of an infertile egg selling circle, organizing purebred Jersey bull circles, organizing four-square community clubs in the trade territory, and the improvement of markets for farm products. The promotional part of the teacher's program is made much easier from the work with the Chamber of Commerce, because the membership, time, money, and talent of the chamber is available to work out the projects.

"The Chamber of Commerce and vocational agriculture tie-up is the best situation for agricultural development that I have worked in so far as a teacher of vocational agriculture."

"The Chamber of Commerce which provides prizes for the community fairs, furnishes the vocational teacher with office help and supplies, gives him financial assistance in training his judging teams, sends him on trips occasionally, supports and encourages his work in the community, and renders assistance in many other ways, is certainly a very valuable asset to the vocational program," declares E. H. Varnell, teacher of vocational agriculture and in charge of the agricultural program at Cisco, a town of 7,500 population.

Denison, a town of 19,000 population, employs a full-time secretary. A. C. Casey teaches two all-day classes in the high school, two evening school classes, and is in charge of the agricultural program of the Chamber of Commerce.

Mr. Casey writes: "It places the teacher in the heart of community activities and service. Farmers soon learn where he can be found and do not hesitate to call upon him. In other words it takes the teacher from obscurity when not in the schoolroom and places him where he can be found for service.

"It places the teacher in a team with community leaders. When he labors with the community workers, he is accepted in full fellowship and gets full and active co-operation in his program."

Mr. George C. Knaur, president of the Chamber of Commerce at Denison, has the following to say: "We believe that an agricultural secretary of the Chamber of Commerce can do more permanent and lasting work if he can reach the boys. We also believe a vocational teacher can do better work if he can reach the producer as well as the boys; consequently, we feel that a combination is better for both the vocational work and the Chamber of Commerce than if the man uses all of his time in either place.

"We might cite our local example of accomplishments achieved—the plant of the Kraft-Phenix Cheese Corporation and the new hatchery of the Mary Maude Farms. The Kraft Cheese factory receives 20,000 pounds of milk daily and the Mary Maude Farms are installing a 104,000-egg incubator capacity. These two institutions are particularly assured a success from the educational work done by Mr. Casey in his rural office. Our interest in their success and our benefits from it is the profitable market for our farmers' eggs and milk.

"Our town has always been, more or less, an industrial town and I do not think there is any one in town who fails to realize the future of co-operation with the farmers. At this time this condition of understanding between the town and country folks is largely due to the combination work of the agricultural department and our chamber.

"We are very well pleased with the work as it has progressed and I might say that I have personally visited the country with Mr. Casey, and I believe his dual connection is giving both your department and the Chamber of Commerce more for their money than could be gotten any other way."

"The big advantage of such a combination is that it makes it possible for a community to have a well-trained man who is an agricultural specialist that would not be possible without the co-operative combination," stated J. E. Kuhne, president of the Chamber of Commerce at Runge, where E. D. Par-

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Preparing Students for Public Speaking

A. K. GETMAN, Chief, Agricultural Education Bureau, New York State Education Department

THE public speaking contest is an excellent teaching device. Under the guidance of competent teachers, pupils find in local, regional, state, and national contests a worthy motive for improving their abilities in written expression and in public speaking. In many branches of school work speaking contests are returning in favor. Increasingly it is being recognized that the preparation and delivery of a declamation greatly assists pupils in acquiring literary taste, in organizing their ideas and in dealing constructively with present-day economic, social, and civic problems.

In agriculture, the emphasis which is now accorded all forms of co-operative work, places a responsibility upon the school to prepare young men to meet the new demands which will be made upon them for assembling facts and for presenting their opinions forcefully. Then, too, in legislative circles, with the proportion of farmers to urban dwellers gradually decreasing, it is imperative that the farmer should be able to express his views clearly and to make claim to his rights, in an effective manner.

The experience of the writer in working with teachers of agriculture as they guide pupils in the preparation and delivery of declamations has prompted several suggestions which may assist the readers of *Agricultural Education* in dealing with this problem.

* * * *

Preparation. The declamation may be regarded as composed of four parts:

(1) An introductory part which has as its chief purpose, the gaining of the attention of the audience. Here the writer seeks to have the audience get in step with the general theme to be presented and with the arguments to be made.

(2) One part devoted to securing the interest of the audience. Here it is advisable to use appropriate illustrations which will visualize to the audience the importance of the problems considered and the significance of their solution. Anecdotes, stories, and local happenings which will add color to the presentation frequently serve effectively to capture and to hold the interest of the group addressed.

(3) One part designed to create a desire on the part of the audience to learn more of the subject or to arouse them to a desire for definite action. The political campaigner features this portion of his declamation by the rhetorical question, "Now, what are you going to do about it?" The farmer leader sometimes declares, "Shall we sit idly by and let others dictate our prices?"

(4) A concluding portion devoted to suggestions as to specific activity in which the audience may engage individually or collectively in carrying out the wishes of the speaker. Here the speaker gives directions as to "What can be done in this particular situation." If the attention of the group has already been secured by a clear statement of the problem and its significance to them, if their interest has been aroused, if they have really developed a desire to do something, then they are ready for action. They are anxious to know how to remedy a bad situation, how to improve present conditions, how to improve their own knowledge, how to render a public good, or how to put down a public nuisance.

The young writer would do well to build his outline around these four points. Thruout, the outline should show clear thinking. If the subject is worth writing about, and if the writer has developed a real interest in it, thru study and experience, it should not be difficult for him to express, in his own words, the statements which he feels are of significance to rural people.

Naturalness in the choice of words is far more effective in presenting ideas than attempting to use words and phrases of mature minds. In the experience of the writer from 40 to 60 percent of the time of the young writer should be spent in perfecting an outline of the declamation.

Space does not permit of a lengthy discussion of the principles of written composition. Here teachers are referred to the ample library facilities usually found in every high school. Observation leads me to believe that one besetting error in the declamation is long sentences. From the standpoint of the speaker, such sentences are difficult to deliver with emphasis. From the standpoint of the audience they are difficult to follow. Effective public speakers cling to the short sentence.

Use of Illustrations. At this point teachers should use care in guiding pupils in the choice of illustrative material. Make sure that facts and data presented are accurately quoted and that they are properly interpreted. Use every precaution to insure the expression of a point of view that is sound both economically and administratively. In a very real sense, thru the declamation contests our agricultural education program is under public surveillance. If, under our guidance, pupils' statements are incorrect, radical, or will not stand the scrutiny of the leaders in agriculture, our efforts will be criticized.

Encourage pupils to use illustrations taken from local agricultural practices within the community or within the region. Several years of experience in dealing with public audiences has taught me that folks are interested in a situation in which John Brown or Jim Jones was actually involved, or in a human interest story which vitalizes the point under discussion.

* * * *

Delivery. Ambition and earnestness of purpose, coupled with ignorance, may ruin a voice and increase the awkwardness of the pupil. Poise, ease and forcefulness in bearing are difficult to secure. When the teacher-coach fixes his major attention on loudness of voice, frequently all power of modulation is destroyed. As a result when the pupil emerges from the coaching he has a harsh and noisy voice. We mention voice training at this point because of criticisms coming to the writer at various times from judges and members of audiences listening to declamations.

Some progress in this detail may be made if the following procedure is observed. From the outset have the declamations delivered in a large auditorium with the coach seated well toward the front. Strive for quality of expression, proper inflection, appropriate modulations, clear enunciation, forceful gestures, and an easy stage posture. At subsequent rehearsals the coach should move gradually to the rear of the auditorium, thus securing an opportunity to observe and to guide voice control on the part of the pupil. If the pupil stands erect with shoulders back and head up, and speaks out, he should experience little difficulty in making his audience hear, even in a large auditorium.

Strive to have pupils use a conversational style of delivery. Such a style helps the boy to speak *to* and not *at* his hearers. It gives the audience a feeling that the speaker is master of his subject and that he is taking them into his confidence. Furthermore, a conversational tone greatly aids the pupil in maintaining his composure and in keeping a free and easy method of expression rather than a hectic and nervous type resulting from the old-time bombasting style of oratory.

The practice of delivering a speech from memory needs a word of caution. The pupil should be guided in making a special effort to deliver his sentences as tho they were being made up at the moment. Skillful extemporaneous speaking seems to be the most effective type of public address. With a little guidance and practice pupils may acquire this spontaneous style of speech, which appears to be one of the most effective devices for gaining poise, ease and naturalness in gestures. In few words his desirable stage presence may be likened to the attitude and posture that he would assume in speaking in a small room to a few interested friends.

* * * *

The Value of Contests. The competitive aspect of the speaking contest is valuable only in so far as it serves as a stimulus to pupils to expend unusual and prolonged effort in acquiring the art of effective written expression and of effective delivery. The honor attained by winning a contest is negligible in comparison to the benefits secured from the preliminary training. We believe that public speaking contests, conducted on a sound educative basis, constitute valuable training for vocational agricultural pupils. Emphasis which has been accorded speaking contests as a part of annual programs of local branches of the Future Farmers of America should bring good results.

The October, 1929, issue of the "Virginia Agricultural Instructor" is a 35-page anniversary number, celebrating the completion of 10 years of vocational agriculture teaching in the state. Valuable historical and statistical data are included along with inspirational messages from the leaders of all phases of the movement. This is a project which might well be emulated by other states.

Are We on the Right Track in Farm Mechanics?

M. A. SHARP, Iowa State College

CHANGES in methods of farming within the past few years are revolutionizing that industry, and since practically all of these changes are due to improved farm machinery it is necessary that we give our teachers a training which will enable them to keep abreast of developments in their chosen field.

Wheat farming has changed almost completely in the last 10 years. Practically all power used is furnished by tractors. From two to eight plows are pulled at a time. A certain disc plow turns a strip about eight feet wide. From three to five discs and drills are pulled behind one tractor.

The binder is almost obsolete in the wheat areas. A tractor, combine, two trucks, and four men now do the work which formerly required two or more binders, four shockers, 12 to 15 men with teams and a steam engine and threshing machine with their crews. They do the job in less than half the time and with one-fourth the cost.

The first combines were used in Kansas in 1918, when 14 were given a trial. In 1926 Kansas used 8,724 while in 1928 there were 20,000 in use*. Iowa, not in the wheat belt, has 90, and Ohio, 89. There are now over 45,000 combines in the United States, less than 5,000 being on the west coast.

The use of such machinery enables a few men to farm a large acreage. It means a large investment in machinery and land, but it also means a heavy loss if these machines do not function perfectly. The proper machine must be selected, it must be operated efficiently, and it must be kept in good repair.

Changes in Corn Machinery

Corn production machinery has not been deveolped as fully as wheat production machinery, but changes are taking place rapidly at present. Tractors pull two-, three-, and four-bottom plows. A plow recently placed on the market has a rapidly rotating cylinder attached which pulverizes the soil, thus making a good seed bed without the use of disc or harrow. The tractor pulls four listers, plants from three to eight rows at a time, cultivates three or four rows at once, and pulls a two-row picker which picks from one to two acres an hour.

The use of cornstalks for making wallboard, paper, rayon, and many other products will be rapidly developed within the next 10 years. Iowa State College has a machine which cuts the stalks and bales them at one operation. Two men run the machine, one driving the tractor and feeding blocks into the baler while the other ties the wires on the bales.

A tractor guide developed by a Nebraska farmer enables a man to plow around a field then let the tractor go ahead without a driver until the field is finished.

One man now does the work of many. The farmer without facilities for up-to-date farming cannot long stand competition and will be forced out. Are we preparing our teachers so they may in turn prepare the boys in their classes for the farming that is to come?

Field of Mechanics Widens

These men need training in the selection, planning, and construction of farm buildings. They must also understand how to use concrete. The development of household appliances, water, light, and sewer systems, heating plants, and use of electricity from high voltage lines means that these boys must be taught the economic and social value of such conveniences and necessities. How many colleges are training their teachers along these lines?

The results of extensive surveys by the U. S. D. A. bring out very clearly the fact that more than half the cost of producing wheat and corn is for power and labor. Use of land, seed, and other costs cannot be materially reduced. The reduction in cost must come thru a reduction in the cost of power and labor.

According to Professor J. B. Davidson of Iowa State College the income from any enterprise may be expressed by the following formula: $I=(P-C)Q$. Income equals the price received per unit less the cost per unit, multiplied by the quantity, or number of units. We can change the cost per unit and the number of units per man, but we cannot at present change the price received to any marked degree.

Below is shown the relationship between the value of crops produced per man and the value of machinery per man, based on 1920 census figures. The value of crops produced is proportional to the machinery used.

	Value per Worker	
	Machinery	*All Crops*
Alabama	$ 68	$ 603
Massachusetts	336	933
Minnesota	588	1,644
Kansas	664	2,526
Iowa	945	2,722

The population of the United States has increased rapidly, while the farming population has not. In 1850 one farmer produced enough for his family and three others. Now he produces enough for 10 families besides his own. This change has come almost entirely thru the use of improved farm machinery. The average acre yield of corn has not been materially increased since 1850. It was lower in 1925 than any time since 1850.

Several extensive surveys have been made to learn what farmers do, or want their boys taught to do, in the line of farm mechanics.

All surveys of courses offered show much emphasis on wood construction, while surveys of what farmers have to do show wood construction work to be of minor value. Every survey taken shows repair work is more important than construction work, yet we continue to train our teachers in lines which are of little value to high school boys.

A survey just taken to find the percent of time given to farm mechanics subjects in the teacher training curricula shows an average of 5.7 percent in the 37 states giving this work. The average for 45 states reporting, including 8 which do not require farm mechanics subjects, is 4.7 percent. A similar survey made in 1926 shows an average of 3.6 percent for these same states. This is an increase of about 30 percent in three years, so we may hope to get a more balanced teacher training curriculum in a few more years.

In nearly all states the farm mechanics subjects are taught in the agricultural engineering department of the college. There is need for much closer co-operation between these departments and the education departments. Most methods men are not mechanics, and most mechanics know little of methods. We need a closer co-operation which will lead to a better understanding of each other's problems.

Co-operation With Agricultural Engineers

The new developments in farming must be taught to high school students by proper methods if our work is to be of service to our future farmers. Because of the very great problems involved, and the common interest in solving them, I wish to make the following recommendations with a view to establishing closer relationships between the agricultural engineers and the other teacher trainers:

I. A set of resolutions to the American Society of Agricultural Engineers to be read at their next annual meeting in June.

II. Appointment of a co-ordinating committee composed of three or more from the vocational education group, and a like number from the agricultural engineering group, to work on common problems.

III. See that agricultural engineers are invited to national and regional conferences and possibly place one on the program.

The minimum percent of time given to farm mechanics subjects in teacher training curricula should be not less than 10 percent in the agricultural states. In the corn and wheat belts and possibly in the cotton and tobacco belts it might be higher.

Our best minds are leaving the farm. Industry has put a premium on brains, while farming has not. Boys and girls with ability and ambition are not content to put up with farm life as most of them have known it. If we are to keep the best brains on the farm we must make farm life more attractive and more remunerative.

The Future Farmers of America is now a national organization, but if we who train teachers to teach those "Future Farmers" are to make them successful we must be careful to give them a training which is practical and up to date. The stage is all set for corporation farming, and if we do not want our "Future Farmers" to be displaced by corporations employing cheap foreign

(Continued on page 27)

*Combine Year Book, Clarke Publishing Co., Madison, Wisconsin.

A Washington Farm Mechanics Program

S. D. BOYER, Instructor in Vocational Agriculture, Arlington, Washington

FARM mechanics, like Topsy, has "just growed." The need for instructional work in the operation, care, and repair of farm machinery, together with the increasing use of gasoline power and electricity on the farm has called it into being. Necessity was its sire and inexperience its dam; and one prepotent monkey in the family tree has been the old type manual training course. The process of evolution has taken it from manual training to farm woodworking, from farm woodworking to farm shop, and from farm shop to farm mechanics. For farm mechanics, we will have to work out aims, methods, materials, and technique.

Aims

The aims of farm mechanics are multitudinous. Some of the more important we may list as follows:

1. To develop skill in the more simple and common operations connected with construction and repair on the farm.
2. To develop confidence and give experience so that the student will know what he can do and have confidence enough to do it.
3. To develop a measure of ingenuity. The "farm mechanic" may not have what he wants for a repair, but if he is ingenious enough, he will do it with what he has.
4. To develop an appreciation of tools. The student needs to learn the tools which are needed, suitable tools, and how to sharpen, care for, and keep the tools, when he gets them.
5. To learn the more important facts of mechanics and farm sanitation that deal with farm problems.

From the aims we may move forward to the contents of a course that will meet the objectives. The modern farmer will have construction, repair, and operation jobs in sheet metal, plumbing, rope, leather, blacksmithing, and metal working, gas engine operation, electricity, carpentry, tool care, concrete, transmission of power, babbitting and bearing care, and the adjustment and operation of machinery. He may not be able to do all of these jobs, but he must know what he can do himself, what others can do better than himself, what he wants done, and what constitutes a good job.

In the farm mechanics course, as it is taught in the Arlington High School, the students work thru a series of required jobs, working in groups of two or three and following job sheets. The grouping of students on jobs with job sheets works a great economy of shop space and tools; incidentally, it also leads the instructor a fast life and a hard one.

After a boy has finished his required jobs, and sometimes before he has finished, if the work is urgent, he is permitted to bring into the shop a car or any piece of equipment needing repairs and use the shop facilities to put it into condition. We have, however, never taken in any cars for others than members of the class or for the school district.

Day a Week in Classroom

To supplement the shop work, we spend one day a week in "skull practice" on phases of farm mechanics or engineering which cannot be handled in the shop. We use a regular text, supplemented by a wide variety of reference books and bulletins. A great many trade bulletins are put out which are very useful in this connection, and these can usually be secured in quantities which will allow each boy a copy. A list of the information subjects handled in classwork follows:

1. The four-cycle engine.
2. The two-cycle engine.
3. Carburetion.
4. Ignition.
5. Generators and storage batteries.
6. Trouble shooting on gasoline engines.
7. Use and care of electric motors.
8. Wiring systems, fusing, loads on circuits, etc.
9. Farm water systems.
10. Farm sanitation and sewage disposal.
11. Farm buildings.
12. Approved types of building construction.
13. Water power.
14. Mechanics, pulleys, etc.
15. Drainage.
16. Land clearing, explosives, stump burners, etc.
17. Land surveys.
18. Concrete.
19. Belts and power transmission.
20. Fencing, general farm conveniences.

In the Arlington High School the course is open to juniors and seniors who have had two years of agriculture or who are taking agricultural work in other classes at the same time. I find that the upper classes are better able to handle the subject than are freshmen or sophomores. Whenever anything calling for shop work develops in the lower classes I feel free to take them to the shop for a day or so.

Our building is of frame construction, 25 x 45 feet in size, well lighted with 11 large windows, and with one large sliding door to admit cars and machinery. Two large doors, on opposite sides of the building, would be an advantage in allowing machinery to be towed into the building. The floor is of wood with a brick overlay in the end where the forges are located, but a concrete floor thruout would be better from the standpoint of fire protection. The building was constructed by the first shop class at a cost of $650 for materials. The tools are kept in two large cases built against the wall between windows. The roof is of 10 x 12 pitch allowing considerable storage space with ample headroom about the main shop.

We have purposely limited the equipment to a type of tools that a farmer could afford to have and would use on his own farm. Equipment of this type and amount will run between $400 and $500. When carefully handled, the yearly maintenance cost should be low. It is probably advisable to have one boy on duty as tool clerk each week, this boy to be responsible for the return of all tools to the cases and for keeping the tools in condition for the week.

Suitable pieces of construction work are good projects for farm mechanics courses. These might be in wood or cement, etc. I have had some good drainage projects. The most common project with me I call, "Farm repairs," and it includes all construction and repair work undertaken by the boy on the farm.

The farm mechanics course is very popular with the boys. It makes splendid contacts with the parents. It should be good for part-time work. It usually repays its running expenses as the boys learn. It is a dangerous course for the instructor who does not "know his stuff." With trained men to handle it, we should be able to build up this worthy phase of the vocational agriculture program.

An orderly shop interior

Iowa will have a 50 percent increase in the number of evening schools conducted this year in comparison with last year and also a 50 percent increase in the average enrollment per unit, according to G. F. Ekstrom, state supervisor. Fifty-two communities will have evening schools this year. Enrollments approach 100 in some communities.

Fashions in Farm Shops

At Center, Colorado

DOWN in the town of Center, Colorado, in the center of the famous San Luis Valley, is a large joint consolidated school with a department of vocational agriculture which was established there in 1920. The original shop used for farm mechanics, which was located within the school building, became inadequate after a time and the farm blacksmithing had to be taught in one end of the school garage. Last September all of the farm mechanics' work was moved to the school garage, which, in May, 1929 caught fire, and practically everything in it was destroyed.

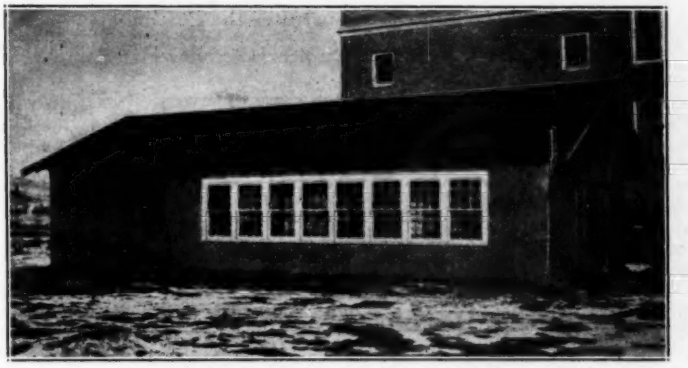
The loss of the garage which had housed the farm mechanics work necessitated the building of a new shop, but instead of making this provision only, it was decided to construct a building in which the whole growing agricultural department could be satisfactorily housed.

This new vocational agriculture building at Center is an adobe structure 50 x 68 feet. It contains a classroom 28 x 34 feet, with an adjoining library room 10 x 12 feet, a 10 x 12-foot office for the instructor, a 14 x 18-foot tool and supply room, and the farm shop, 28 x 50 feet.

One end of the farm shop is equipped for woodwork and related enterprises, while the other end is equipped for blacksmithing. Plenty of windows, 5 feet in length, give ample light for working in all parts of the shop, at all seasons of the year. There is a concrete floor in the metal working end of the room and a board floor in the opposite end. A large double door opens directly onto the street, giving easy access to the shop proper. Equipment consists of forges, wood benches, general repair benches, etc., placed in "units" so as to provide for the woodworking and related enterprises to be carried on in the north half of the farm shop, while blacksmithing, farm machinery, and farm motor repairing will be conducted in the remaining space.

To the west side of the shop is a section 10 x 12 feet, which contains a hot water heater, showers, and steel lockers. Eventually this will be used entirely by the boys enrolled in vocational agriculture. The shop has hot and cold water, electric lights, and electric power. A splendid new set of tools for teaching the important enterprises of the community has been purchased. Classes are expected to be held in the new department immediately after Thanksgiving.

Much of the inside finishing work on the building has been done by the boys in the vocational agriculture classes. They have received some valuable training in building construction. A full four-year agricultural course is in operation now, which places particular stress on farm mechanics. All jobs studied are those practical activities which every successful farmer in the locality must meet. Mr. Frank McGee is the instructor.—W. A. R.



The completed farm mechanics shop at Cody, Wyoming

At Monte Vista, Colorado

A FINE new brick building, 40 x 80 feet, located on the high school grounds of the Rio Grande County High School at Monte Vista, Colorado, is nearing completion. Monte Vista is located in the San Luis Valley, famous especially for potatoes and pea-fed pork.

The new building is so located as to be supplied with heat from the central heating plant. It contains an agricultural classroom, 20 x 30 feet, a farm mechanics shop 40 x 40 feet, a small office, a locker and shower room, a tool room, and a meats room.

The shop is provided with the much needed wide entrance double door, and is supplied with half concrete and half board floor. The farm mechanics instruction will be organized to include woodwork, blacksmithing, farm machinery, and farm motors.

The meats room opening off of the classroom is a novel feature in this building. The advanced class has undertaken a feeding project in swine. The boys are killing, dressing, and cutting up carcasses and marketing them by cuts. There are seven acres of land adjoining the building, on which both class and individual projects may be carried out.

The farm mechanics classes are playing an important role in the completion of this new building which will be a $10,000 plant when fully equipped. Communities, such as this, are recognizing the value of vocational agriculture and the need for proper equipment to carry on a constructive program.

Arranging the farm shop equipment so that the various working units such as woodwork, soldering, leather work, and blacksmithing are located in different parts of the farm shop saves time and space for the instructor and boys and makes for smoother shop operation.

Marking each tool with the school name and painting the outline of the tool in the cabinet where it belongs when not in use, aids in preventing loss of school tools. Paint the background white and use black for the outline of the tool.

At Metropolis, Nevada

THE vocational agriculture class at Metropolis is getting a lot of satisfaction out of constructing its farm shop, which measures 20 x 30 x 8 feet to the square. It is a frame building with a concrete foundation and floor, first-class rustic for siding, heavy three-eighths-inch sheet rock lining, and the roof is covered with the best grade of slate coated roofing.

The actual cost to the school district for the materials put into the building was $325. This does not include the sand and gravel hauled, without cost, by the boys. The boys in the class did all the labor on the shop.

Work on the shop was started September 20, and the building was completed and ready for service on November 15. Nine students were on the job with their instructor, J. G. Latimer. There was one week's delay in the building program because of county institute. This represents an enviable record of achievement for student labor.

One of the most significant features of the Metropolis farm shop project is that it represents a series of operative and managerial jobs for each boy in the class. Each one was given instruction in every kind of building construction. In planning the structure the boys made careful estimates of all materials and costs, secured the best price quotations from various firms, and thus made all the important decisions connected with the project.

The fact that parents have actually seen this structure materialize under the efforts of their boys has strengthened their support for the school and all worthy school causes. It has developed a favorable attitude toward the vocational program. A great deal of interest has been manifest both by school and community in this class project. The boys are keenly anticipating their work in farm mechanics in their new building during the remainder of the year.—From Nevada Vocational Reflector.

A supply of handles for hand tools such as hammers, should be kept on hand in the school shop.

A coat of paint on a repair job gives it a more finished appearance and helps to protect it.

An "Axe Manual" by Peter McClaren may be secured by writing to Fayette R. Plumb, Inc., of Philadelphia.

Laundry soap or Gold Dust, used on paint brushes immediately after the paint job is finished, is a splendid brush cleaner; brushes should be rinsed thoroly.

Making Good on Project Estimates

Hollis Davenport Demonstrates the Possibility

PAUL E. FARNUM, State Supervisor, New Hampshire

THE old adage "Don't count your chickens before they are hatched," may be a good caution to observe when one is guessing but Hollis Davenport of Walpole, New Hampshire, does not believe that this applies to his situation.

Hollis Davenport could not afford to guess. He was a farm boy with very limited resources. He had already demonstrated his thrift by building two good 10 x 14-foot colony houses from driftwood lumber picked up after the great New England flood of 1927.

Hollis had had some experience with poultry on a small scale and wanted to enlarge his business. However, he was short of money and had to know what it would be likely to cost him and what he could count on making before risking a larger investment.

His goal was to fill his colony houses with layers after using them for brooding and in order to do this he figured he would need to start with 300 chicks.

This situation was the basis on which he made the following careful estimates covering the rearing period up to time when the broilers would be sold.

ESTIMATED EXPENSES

Rearing 300 White Leghorn chicks to 14 weeks of age.

Item	Amount	Cost
Coal	1 ton	$16.00
Grain (10% discounted for mortality)	1,366 lbs.	44.39
Mash (10% discounted for mortality)	1,539 lbs.	51.56
Cod-liver oil	1 gal.	2.25
Semi-solid buttermilk	160 lbs.	6.40
Carbola	5-lb. can	.75
Concentrated lye	1 can	.30
Shipping crates	7 crates	4.55
Shavings	10 bales	5.00
Labor	60 hrs.	18.00
Opening inventory (300 chicks)	300 chicks	54.00
Use of building $30 @ 10% for 4 mos.		1.00
Use of equipment $15 @ 10% for 1 year		1.50
Int. on average inventory $109.50 @ 6% for 4 mos.		2.19
Rent for ¼ A. ground (value $40 per acre @ 10% for 4 mos.)		.34
Total Cost		$208.23

ESTIMATED RECEIPTS

Item	Amount	Per Unit	Total
Broilers	320 lbs.	$ .30	$ 96.00
Closing inventory (pullets)	110	1.50	165.00
Manure	350 lbs.	6.00 per ton	1.05
Total Receipts			$262.05

ESTIMATED FINANCIAL STATEMENT

Total receipts	$262.05
Total expenses	208.23
Net income	$ 53.82
Self labor	18.00
Labor income	$ 71.82
Labor income per hour	$ 1.19

Feed consumption tables were consulted in estimating the amount of grain and mash required. An allowance was made for 10 percent mortality and a similar deduction made in the estimated total amount of feed. Estimates on supplies were made on the basis of his experience and by consulting with other poultrymen and the agricultural teacher.

Altho he owned the buildings it was decided that it would be simpler and just as accurate to charge for their use for four months rather than to inventory them, particularly since they were to be used later in the year for laying birds. A charge was likewise made for the brooder stove and other brooding equipment but for a full year since these things would not be used for any other purpose.

The device which Mr. Farnum describes in this article is one which should be generally used. Estimating costs in advance is a very necessary part of business management and one which is none too carefully treated in most of our project planning. The making of such estimates doubtless helps decidedly also in motivating project record keeping and in securing more complete and accurate records.

Hollis bought his chicks for delivery March 16, 1929. He had contracted for white diarrhea-tested stock. They came in due time and things looked rosy when the fates decreed otherwise. The chicks became droopy and diseased. It looked as if the old adage might be right after all. But Hollis had faith in the instruction which he had received and started to fight the infection effectively with sour milk. He succeeded but only after a loss of 22 percent instead of his estimated loss of 10 percent. There were other less serious variations from his original estimates, some low and some high, but the final labor income earned was safely above the estimated amount by an encouraging margin.

Following are the actual cost account figures for the same period:

ACTUAL EXPENSES

Rearing 300 White Leghorn chicks to 14 weeks of age.

Item	Amount	Cost
Coal	½ ton+	$8.52
Wirthmore chick grain	200 lbs.	6.30
Wirthmore Intermediate chick grain	800 lbs.	22.80
Wirthmore starter	400 lbs.	15.60
Wirthmore growing feed	800 lbs.	24.40
Semi-solid buttermilk	50 lbs.	4.25
Whole milk	40 qts.	3.20
Carbola	5-lb. can	.75
Spray	½ gal.	.90
Lye	1 can	.30
Shipping crates	4	1.60
Shavings	6 bales	3.00
Labor	98 hrs.	29.40
Opening inventory (300 chicks)	300	54.00
Use of building $30 @ 10% for 4 mos.		1.00
Use of equipment $15 @ 10% for 1 year		1.50
Int. on average inventory $127.50 @ 6% for 4 mos.		2.55
Rent for ¼ A. ground (value $40 per A. @ 10% for 4 mos.)		.34
Total Cost		$180.41

ACTUAL RECEIPTS

Item	Amount	Per Unit	Total
Broilers	132.25 lbs.	$ .31	$40.99
Broilers	26.4 lbs.	.30	7.92
Closing inventory (pullets)	134	1.50	201.00
Manure	300 lbs.	6.00 per ton	.90
Total Receipts			$250.81

ACTUAL FINANCIAL STATEMENT

Total receipts	$250.81
Total expenses	180.41
Net income	$ 70.40
Self labor	29.40
Labor income	$ 99.80
Labor income per hour	$ 1.02

In the opinion of the writer no other device in connection with project planning has proven so effective as has the making of estimates of cost, production, labor and income. This procedure helps the boy to visualize his project as a tangible reality even before he has started it.

It is not necessary to wait until the pupil has completed the instruction in the poultry course before making these estimates. The greatest benefit comes from doing this work with the aid of the teacher at the time when projects are being selected. These preliminary estimates will of course be checked for accuracy as study progresses but by that time they will have served their major purpose in effectively motivating the pupil.

New Aspects of Farmer Training

(Continued from page 20)

er, and an experienced operator, becomes also an understanding helper and the master farmer in training his son or sons in the farming business. His is the co-responsibility of creating and maintaining suitable learning situations for himself and his apprentice. The vocational teacher organizes the learners of his community into appropriate groups for economical instruction.

The project is still found in the new pattern: not, however, as an end, but as a method of teaching certain aspects of the situation involved. The project is a part of and not apart from the economic unit as a whole; it may be the development of a specialized enterprise; it may be the boy's very own, but it is still a part of the normal economic home management plan. This evolutionary development will doubtless overcome some of the inherent weaknesses of the home project plan apart from the total economic home farm situation.

Looking Ahead. In conclusion, may I raise three questions for your further consideration? I am wondering if I do not see in this new pattern, with its new approach, its new elements, and its new arrangements, a new emphasis in the national training program that is destined to make a great impression upon American agriculture.

I am wondering if I do not see even beyond the possibilities of developing a sound apprenticeship plan of farmer training in this country, the probability of greater initiative in projecting and developing programs of vocational education in agriculture that meet more specifically training situations in the several types of farming. Finally, do I not see in this more adaptive vocational program a thorogoing improvement in the agricultural industry thru community effort, community understanding, and community co-operation of adults now engaged in the farming business.

Too Many Farmers?

MCMILLEN, WHEELER. *Too Many Farmers.* William Morrow and Company, New York. 1929. 340 pp. $2.

ONE of the most readable discussions of present-day agricultural problems. The author is a journalist and one might guess this from a reading of the book.

The book touches upon but does not exhaust the various phases of the agricultural situation. Of particular interest are the discussions of extension work, taxation, and the tariff as it affects the farmer.—F. W. L.

Earning and Spending Phases of Project Work

Mississippi Puts the Horse Before the Cart

V. G. MARTIN, Head, Rural Education Department, Mississippi A. and M. College

NECESSARILY a project is a response to a felt need. Specifically a boy who grows cotton without feeling a distinct need to grow it has no project, but merely a farm practice. Thereby he may conform to the requirements of the federal law, but he has missed the educational significance of a project. The Law of Exercise has operated but there has been no opportunity for the Law of Readiness and hence there has been little effect educationally. Might we not well raise the question as to how our supervised practice program is divided as between mere farm practice and projects which represent purposeful activity in response to a felt need. While no data are available to answer this question, it is reasonably safe to venture the statement that a very large percent of so-called projects in agriculture are merely farm practices. Among other things which have contributed to this end is a measure of project results which places emphasis on crop and animal production to the exclusion of growth of boys thru the development of abilities.

Projects Not a Source of Interest

In Mississippi much of the Project Program in active practice has been only perfunctory and has been void of many of the characteristics of real project work. Paradoxical—but we have adopted the project for its motivating influence and we find ourselves searching for incentives to motivate projects. When we look ourselves over without selfish bias and prejudice, we discover that on a very large scale the uninterested, unconcerned, indifferent boy is still with us. Quite true we have raeched some but in reality do not our citations on this point merely cover the isolated cases? Our teachers still complain of the difficulties of getting projects selected on time. Their boys still fail to take pride and show interest in finding scientific solutions to their project problems. Still the project fails to be the dominating consideration when trivial attractions compete for the boy's time and thought. Even still there is the greatest difficulty in getting boys to keep their records up to date even in a very unsatisfactory form. We have grown and progressed, we believe along with other states, but we are still seeking for a means of motivating farm boys (even the proper proportion of them) towards farming as a vocation, or as a field for scientific study. We are not at all pleased with our project work.

We are convinced that the situation thus briefly outlined presents a real problem and we have given diligent consideration to seeking means that will effect some improvement in this phase of the work. The problem has been attacked from the point of its fundamental concept, viz., "A project is a purposeful activity in response to a felt need." We have insisted and still believe that the money need should be the dominating felt need on the part of farm boys—in fact most boys. By introspective analysis, however, we find that we have never put farm boys in a position of needing money. We have just assumed that they did—perhaps they did and do still but do they really know they do? Apparently I need or once needed certain vitamines in my diet, which if I had had might have produced a somewhat better proportioned subject but not knowing the need, I was never motivated in the direction of correcting my diet.

Typical Cases

Farm boy A had actually had $200 spent on him during the year 1927, but the money spent was his father's money. A's needs were very well satisfied but without scarcely a realization on his part that he really had any needs. B had a cotton project from which he made a profit of $225. After the crop was made and sold, he was approached on the question of properly spending money. Assuming that he was influenced to put his money to wise use—a part on savings, some for next year's project needs, some for legitimate personal expenditures, etc.—not having these needs in mind until the project was completed what motivating influence did such needs have on his project activities? In September, 1928, it was discovered thru careful study that farm boy C had had during the previous year a suit of clothes which cost $25. At Christmas time and other holidays, he had spent $20, for sport and entertainment he had spent $25, and $15 or $20 for other legitimate items. An arrangement was made and agreed to by the boy, his parents, and his teacher, whereby, that after 1928, if the boy obtained any of the above items or benefits, he would only thru his own earnings. Between denying himself these wants and feeling a need for project work, boy C saw a need for project work and his project activities in the classroom and on the farm have been purposeful.

About two years ago our teacher training department proposed the question of starting the project program with the boy's financial needs—not merely his assumed needs, but his actual needs as revealed thru definite surveys and established agreement with the parent as to what constituted legitimate needs for each boy in his particular home circumstances. During this present scholastic year, this plan has been definitely followed by a number of schools, possibly a majority of them.

In one particular area with 12 vocational departments it was found that 10 of the schools had set up their this year's project program on this basis. The highest amount for current expenses that had been agreed upon for any single boy was $314 and the lowest was $15, with the average about $125 per boy. In addition to current expenses, savings are included in the budgets. Eight of the 12 schools had incorporated savings in the budget of boy's needs. The largest saving set up was $200 and the lowest $16 with the average about $60. Forms suggesting how the survey of boy's financial needs is made and the budget set may be had upon request.

We, as teachers, in our own minds have said boys need money of their own. The boys, in their minds, have probably said, "Why do we need money of our own, dad's money gets what we want." If boys are to feel a need of earning money, access to dad's money must be closed. In analyzing the job of the agricultural teacher one of the big ones should be arranging with the parents to place vocational boys on their own responsibility and resources for earning their money and satisfying their needs. Again we have steadfastly insisted on boys having for their own in increasing proportions, the project earnings. Much energy has been expended in efforts at enlarging project scope—it makes good publicity. In asking that a boy be given money without proposing a wise plan of spending it, is fostering a serious injustice upon the boy. The educational influence of such a plan is detrimental. And only a partial remedy has been effected in proposing only partial uses to which the boy's money should be put, such as saving accounts, purchase of farm property, etc. His needs are most nearly met only when he works out in the beginning a well rounded budget of money needs and then sets about in his project program to satisfy these needs, and having received his earnings from his project program then puts his money to the previously determined uses, subject of course to such modification as varying circumstances might warrant.

Progress in Mississippi in putting the whole project program from the selection to the investment of the money earned on the basis of definitely determined financial needs has been quite satisfactory in the short period that this plan has been tried. If this progress continues we feel justified in calling this an outstanding development in our program.

Are We On the Right Track In Farm Mechanics?

(Continued from page 23)

labor we must give these boys a training which will fit them for their life work.

Some of the tinker jobs we teach now are of little value, but they take the time which should be given to real farm mechanics. The "Future Farmers" of America must be trained not only in animal production, marketing, soils, and crops, but they must be trained to produce economically. This means the use of power and machinery in large units in competition with large scale farming well financed.

The next few years will see a large number of our small and poorly trained farmers forced out of business. Possibly 20 percent of them will go within the next 10 years. We are responsible for the destinies of tens of thousands of young Americans. Are we training teachers who can go out and train "Future Farmers" for the greatest fight in the annals of agriculture, or are we leaving out a part of their training which may mean their downfall?

A Score Card for Productive Projects

C. S. ANDERSON, Pennsylvania State College

EARLY in his experience as a teacher of agriculture, A. D. Wilson of Imperial, Pennsylvania, felt a need for a more scientific means of evaluating or grading the projects that came under his supervision. He undertook the task of preparing a score card for the purpose, and, after two years of trial and revision produced one which has proven acceptable to the Pennsylvania teachers of agriculture.

REVISED SCORE CARD

Types of project..... Scope.....

Name of pupil..... School.....

Item	Value	Score	Maximum Score
1. For each month the project was carried	1		12
2. For each 20 hours of self-labor on project	1		15
3. For each 25 cents pupil's labor income per hour	1		10
4. For each $40 of pupil labor income	1		25
5. For each 15 cents of net profit per each dollar invested	1		12
6. For each 10% increase in production over state average (or other set goal)	1		10
7. For each exhibition of the products of project at any organized fair or show. (Project story should give details)	3		6
8. For project ownership:			
Full ownership	10		10
Half ownership	5		
Total Score			100

NOTE—In scoring item 6 the following standards are suggested for Pennsylvania: Dairying, 4,000 pounds of milk, or 160 pounds of butterfat. Potatoes, 200 bushels per acre. Corn, 40 bushels per acre. Small grains, U. S. D. A. Yearbook statistics for Pennsylvania. Poultry: egg production, 100 eggs per year; brooding chicks, 50% of the chicks reared to 12 weeks. Hatching eggs, 50% hatch of the eggs set. (A poultry project combining egg production and rearing chicks should weight or average this score by allowing 1 hen to equal 4 chicks.) Bees, 20 pounds of comb, or 50 pounds of extracted honey per colony. Swine, .6 pound gain per pig per day fed. Truck, U. S. D. A. figures for the crop, or $200 per acre in mixed crops. Wheat, 18. Oats, 32. Buckwheat, 24.

To qualify for the State Project Contest a project record must include a carefully organized plan, a record of at least five teacher's visits with comments, and a well-written project story.

His original purpose in developing a scoring device was to obviate certain of the teacher difficulties in grading projects, for if project work is granted school credit, some form of grading is necessary. The score card seems to have met this need. Furthermore, during the past two years it has been used in connection with the Pennsylvania State Project Contest.

There is no doubt but that its use as an objective means of judging these contest projects has greatly stimulated the vocational agriculture project program for the entire state. The state contest, now in its fifth year, has grown from 189 entries to nearly 1,500 competing projects, thus necessitating a more workable, a more reliable, and a more objective method of judging than at first sufficed.

Determining Score Card Factors:

In going about to determine significant score factors, Mr. Wilson first consulted, thru interview and questionnaire, all of the vocational agriculture teachers of the state. From them, and out of his own teaching experience, he secured a list of some 40 factors suggested as means of determining the success or failure of an agricultural project. This list of factors was then submitted to a group of a dozen experienced agriculture teachers who were at the time meeting in a regularly organized extension class. These teachers, acting as a committee, studied each of the proposed factors. Much delimiting of the original list followed.

Some factors such as: neatness, completion, accuracy of records, project story, pupil attitude and application were omitted from the trial or proposed score card. Some of the rejected factors were eliminated because they did not easily admit of objective scoring, some because they overlapped other factors, and still others because in the judgment of the class they seemed relatively unimportant.

As the score card took form, it was repeatedly applied to groups of project records and revised. The following year a trial was made of it in the state contest. While this trial brought forth further revision suggestions, it also proved the merits of the device. The following type of projects are recognized in the contest: truck, potatoes, small grain, corn, fruit, poultry, swine, beef, dairy, sheep, and bees. The score card proved equally effective when used with these different types of projects.

The average scores in each item of the score card for 100 high scoring projects selected from the six most popular types of projects in the 1928 contest are shown below.

To further justify each item on the score card, tables of correlation were prepared and the coefficients between the several items computed. No significant correlations were found, the highest being between items 3 and 4, and this low enough to indicate that even these items do not tend to measure the same thing.

There is much commendable that might be said concerning this venture in score card making. Its author certainly defined a problem from his own teaching and courageously undertook its solution. A standard measure of this sort should greatly aid each individual teacher in dealing with his local project situation, to say nothing of the extent to which it simplifies the problem of handling hundreds of projects in a state project contest such as is conducted in Pennsylvania.

State-wide use of such a score card will inevitably raise the standards of project work. The influence of certain items seems already apparent. When pupils become aware that only full ownership can give them the maximum score of 10 allowed, they are more likely to insist on full project ownership. Sixty-three percent of the projects entered in the state contest of last year claimed a perfect score for ownership.

THE AVERAGE SCORES IN EACH ITEM OF THE SCORE CARD FOR 98 HIGH SCORING PROJECTS IN THE 1928 PROJECT CONTEST

No.	Project Type	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8
12	Truck	6.5	4.1	6.8	5.6	10.5	6.8	2.0	9.0
22	Potato	6.6	3.6	7.3	6.3	11.4	10.4	3.3	7.8
11	Corn	6.3	5.0	8.1	5.7	12.0	6.7	3.3	8.6
20	Poultry	9.5	6.5	6.8	7.1	5.9	7.4	3.1	10.0
23	Swine	7.4	1.9	6.4	3.0	8.8	7.4	.6	9.2
12	Dairy	11.4	8.6	9.4	18.4	6.8	9.4	2.2	5.6
	Average	7.9	4.9	7.4	7.7	9.2	8.0	2.4	8.4
	Score card values	12.0	15.0	10.0	25.0	12.0	10.0	6.0	10.0

In the same manner, the use of the score card is tending to focus attention on greater pupil participation in project work, projects of longer duration, and increased standards of agricultural production.

In two states, North and South Carolina, the evening school enrollment last year exceeded the enrollment in day schools.

An Analysis of Farm Boys' Home Experiences

P. S. LOWE,
Teacher of Vocational Agriculture,
Frankfort, Indiana

DATA have been gathered from 95 farms in 12 communities in central Indiana regarding the manipulative and managerial farm jobs in which high school students in vocational agriculture, or their fathers, or others, participated during the year 1927.

The term "manipulative" was interpreted to include operative jobs, or jobs performed thru physical effort. "Managerial" jobs were considered to be those involving decision and business judgment.

The following facts were discovered:

The percent of the total manipulative jobs in which the father took part was 80.5

The percent of the total manipulative jobs in which the son took part was 66.3

The percent of the total manipulative jobs in which others took part was 41.3

The percent of the total managerial jobs in which the father took part was 95.7

The percent of the total managerial jobs in which the son took part was 18.8

The percent of the total managerial jobs in which others took part was 15.6

It would appear from this summary that boys in high school classes have a much larger share in manipulative than in managerial jobs and that they are consulted but little more than other persons with respect to managerial decisions.

The Newton, New Jersey, F. F. A. Chapter recently organized a Future Farmer Co-operative Association. This association will purchase seed, feed, and fertilizer and sell poultry, eggs, potatoes, and garden products. The boys plan to use certified seed potatoes.

Our Leadership in Agricultural Education

DR. A. WILBUR NOLAN, of the University of Illinois

AS IS TRUE of many other men Dr. Nolan was born and reared on the farm, but unlike many such men he has given most of his time and the best of his thought in the service of people living in rural communities; unlike many such men he had the vision to see the possibilities of rural development and sufficient courage back of his convictions to enter this field of service long before there was an extension service or a vocational agriculture supported by federal aid.

One is hard pressed to characterize justly and fully, in the limited space available, the extent and nature of his service in rural life. In fact, one can but touch upon what seems to be the dominant note of that service. One finds him frequently to be the efficient administrator and at times the effective research worker, but above all else one finds him to be a teacher, a teacher in the fullest and richest meaning that term may convey.

Dr. Nolan was born near Scotland, Illinois, June 1, 1874. His elementary school education was received in the rural schools of Edgar County, Illinois, and his secondary school education in the high school at Clinton, Indiana.

He entered Indiana University in 1894, and after many interruptions of undergraduate work by teaching in elementary and secondary schools he received the A. B. degree in 1905. In 1900 he became principal of the high school at Cayuga, Indiana, and in 1904, superintendent of the township consolidated and commissioned high school at Howe, Indiana, where he remained until 1908. During the summer of 1906, he was a graduate student at Teachers College, Columbia University, New York.

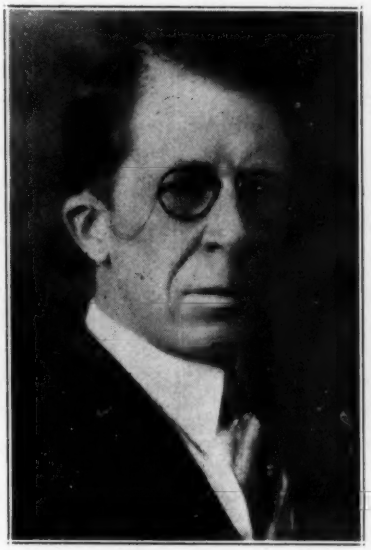
He was made assistant professor of horticulture and forestry in West Virginia University in 1908, and associate professor of agricultural education in West Virginia University in 1911.

In 1912 he came to the University of Illinois as assistant professor of agricultural extension. During the summers of 1914–15 he was instructor in rural education at the University of Chicago. In 1917, 1918, and 1919 he was state supervisor of agricultural education in Illinois, under the Smith-Hughes Vocational Education Act. During the years from 1917 to 1924 he was a graduate student in education at the University of Illinois.

In 1920 he was appointed associate professor of agricultural education and director of teacher-training at the University of Illinois, which position he now holds.

He has published the following books: One Hundred Lessons in Agriculture: A Year in Agriculture; The Teaching of Agriculture; The Home Project Series (in joint authorship with Dr. James H. Greene); The Case Method in the Study of Teaching Vocational Agriculture; Farm Crop Projects (in joint authorship with Dr. W. L. Burlison—in process of publication).

Even the above brief survey of his life to the present time indicates his interest in teaching, in rural development, and his achievements and contributions in these fields. He has taught on every step of the educational ladder from the little country school to one of the great universities of our time. His books have dealt with methods of teaching or supplied materials for that teaching. Moreover his research work has investigated teaching and rural life.



Dr. A. W. Nolan

One does not have the temerity to try to estimate accurately his contributions to vocational agriculture in the state of Illinois. It can only be said that in 1917 he carried the Illinois plan to Washington to receive the approval of the Federal Board, that he fathered the work in the beginning as both teacher-trainer and supervisor, that almost without exception every man active in the development of vocational agriculture in the state of Illinois—whether it be in teacher-training, in supervising, or active teaching in the schools of the state—has been at some time a student under the direction of Dr. Nolan.

Not long since a neighboring state supervisor of agricultural education said, "All teachers of agriculture coming from Illinois into our state are enthusiastically loyal to their jobs—how do you make them that way?" One could not answer this question without referring to the teaching of Dr. Nolan.

Nor is his influence limited to the classroom alone. He has kept watch along the borders of rural darkness and made attacks upon the trenches of undeveloped rural life in every section of the farflung state of Illinois. To few men has been given his capacity to make the abstract scientific facts of education and agriculture so meaningful and inspiring to those busily engaged in the practical and personal affairs of life. In fact, the demands for his service in all parts of the state are so great that no one man could meet them.

It would be unfair, however, if, in the attempt to strike the dominant note of his life and service, the impression were to be given that his interests and activities have been narrow. In fact he has only recently returned from a year's leave taken in answer to a call from the California Christian College to spend a year there acting as dean of the college and directing the reorganization of the curriculum of that institution.

Yet it is as a teacher and friend that his students always remember him. Wherever you may find them a reference to Dr. Nolan always results in a statement of respect and appreciation, not only in mere words but in the tone of their voices and in the expression of their faces. Of him it may be said, "He quickens the indolent, encourages the eager, and steadies the unstable." He has the gift of sharing the best treasures of his mind and of communicating his own joy in teaching and serving. In fact, to his own students, he seems to personify the ideal teacher. Probably there is no better way to close this article than to quote briefly from a spontaneous tribute made by a group of his students who were honoring him by presenting him with the service key of their professional agricultural education fraternity. Their spokesman said:

"We have long desired to express to you, in some way, our recognition and appreciation of your services in our professional field and especially for that generous consideration and kind advice which you are always so ready to give each of us as individuals.

"Yet, we find ourselves somewhat inarticulate at this time. We find that the words we have at hand are inadequate to express our appreciation. We do, however, want you to know that we believe you exemplify in your life, those ideals towards which we are striving.

"Tonight, we are presenting this key to you, not just as a fraternity key, but as a symbol of all that finer sentiment and esteem which we have for you but cannot well express in words."

(Written by B. C. Lawson, University of Illinois.)

Mr. E. B. Matthew, formerly state supervisor for Arkansas, has advanced to the state directorship. Mr. R. B. Smith, formerly state teacher training agent, becomes state supervisor. Their duties are not greatly changed as a result of the shift.

A joint committee, made up of representatives from the Farm Bureau, the Grange, and the Farmers Union, is advising W. P. Beard, South Dakota state supervisor, in the construction of a state course of study.

Mrs. Edward H. Jones, wife of the state supervisor of North Dakota, recently passed away. Four children were left. *Agricultural Education* extends its deepest sympathy.

Future Farmers of America

Farm Journal Contest Results

THE Holland, Virginia, chapter of the Future Farmers of America is the winner this year of the $500 first prize in the *Farm Journal* contest, conducted to determine the chapter with the best program of work during 1929 in the entire country. Forestville, New York, is second and the winner of a $300 prize. Danville, Arkansas, wins third and $200.

Members of the Holland, Va., F. F. A. chapter, which won $500 first prize in the Farm Journal contest
(Courtesy of the Farm Journal)

The Holland chapter enrolls members who last year carried supervised practice programs embracing the production of 134 acres of crops, caring for 800 head of poultry and 120 hogs, with profits amounting to more than $4,800, or $215 per boy. Ninety percent of the members completed their projects. Thirty-six percent continued their projects from the previous year.

Members of the chapter were responsible for landscaping the Holland school grounds to make it one of the most attractive in the state. Nineteen improved practices were introduced into the community by the chapter, ranging from the dissemination of certified cotton seed to the feeding of minerals to swine.

Co-operative activities involved buying and mixing 4,200 pounds of poultry feed, buying three tons of tankage, and the production and selling of seed.

The chapter sponsored a successful community poultry and seed show and, in connection with it, a district judging contest for Future Farmers. It had a very attractive exhibit at the Four County Fair at Suffolk, which won a first prize.

Members enjoyed a week's camping at Ocean View in the summer. The Norfolk experiment station and fertilizer factories were visited. A Father-and-Son banquet was held with 68 present. The average of savings and investments per member was $239.60, $208 of it invested in farming and $31.60 deposited as savings.

All but four of the 25 objectives set up for the chapter for the year were reached. More than 1,000 boys were included in the chapters competing in this year's contest. It is expected that the contest will be continued next year, with some slight revision of the rules.

Members of the Forestville, N. Y., F. F. A. chapter, winner of $300 second prize
(Courtesy of the Farm Journal)

Responsibilities of Local Advisers for Future Farmer Chapters

(The adviser must first of all know the purposes of the organization and fully understand that the organization is one for boys. The adviser who takes responsibility away from the boy will never have a successful organization.)

1. Be thoroly familiar with constitution and by-laws, ceremonies, parliamentary procedure.
2. Keep informed of work of other chapters by reading state publications, and distribute publications among boys.
3. Assume responsibility for having an organization in the school.
4. At all times serve as an inspiration to the group.
5. Thoroly acquaint boys with organization.
6. Organize the chapter.
7. Inspire boys to accept and carry out the state objectives.
8. Guide boys in setting up chapter objectives, but avoid dictating the nature of objectives.
9. In such activities as school fairs, banquets, and the like, direct thoughts of boys in making plans, but place the responsibility upon boys. (The boys should feel that all activities are theirs, and not the instructor's.)
10. Encourage all evidence of initiative.
11. Solicit support of banks, etc., in making contests possible.
12. Avoid taking leadership away from boys, even tho boy leadership seems inadequate.
13. Avoid doing work for boys, but train him to perform the task.
14. See that chapter meetings are held in summer months as well as during school sessions.
15. Avoid, when possible, holding of meetings during class periods. (Continually meeting at class time tends to lead boys to feel that the meetings are only that many more classes.)
16. Avoid any form of secrecy in the organization.
17. See that initiation and degree ceremonies are properly conducted.
18. Train boys thru participation in co-operative buying and selling.
19. Keep in mind that the chief aim of the organization is the training of country-loving, co-operative citizens.—*Wisconsin Projector.*

The Future Farmers of Texas have just issued a handbook for local advisers. It contains 32 pages and gives detailed suggestions regarding the management of local chapters.

Minutes of the second annual meeting of the National Congress of Future Farmers have been attractively prepared by Secretary Groseclose in a 17-page publication, available from his office.

Future Farmers of America

Senator Capper Sponsors Contest

SENATOR ARTHUR CAPPER of Kansas is sponsoring an essay contest in his state open only to boys who belong to the Future Farmers of America. The subject of the essay is, "Why I Plan to Stay on the Farm." Cash awards of $50, $25, $15, $10, and $5 go to the first highest individuals placing in the contest. A trophy cup and a shield are also given as awards. These go to the school attended by the boy winning first place. The cup remains permanently with the school, but the shield is held for the year only and is awarded the next year to the school having the winning boy in the contest.

L. B. Pollom, supervisor of agriculture; L. E. Call, dean of the division of agriculture, Kansas State Agricultural College; and J. C. Mohler, secretary of the State Board of Agriculture of Kansas, are the judges. The contest closes February 20.

Keystone Branch

SINCE the adoption of the state constitution and by-laws for the Keystone (Pennsylvania) branch of the Future Farmers of America, 20 local chapters have been organized, with a total membership of 330 farm boys.

Some of the outstanding features of the program of these local chapters are as follows: sending teams to the state judging and demonstration contests; planting at least one acre of forest seedlings; conducting a project tour, giving an agricultural play; improving school grounds; holding a project banquet for boys and parents; opening thrift savings accounts; holding a junior project roundup; conducting survey as basis for starting part-time instruction; conducting a vacation tour to study the agriculture in other states; promoting short courses; community fair; boosting department of agriculture; building hotbed on school grounds; giving demonstrations before local P. T. A.

Arrangements are being made for a meeting of the Future Farmers of America at the time of the State Farm Products Show.—*Rural Life Letter*, Pennsylvania State College, December, 1929.

The State Grange of New Jersey, at its annual meeting at Atlantic City in December, handed State Supervisor of Agriculture Sampson a check for $100 to be awarded as prizes in a Future Farmer Project Contest that had just been completed. The purpose of the contest was to stimulate interest in project work among the "Future Farmers" of the state. In New Jersey both the state and local granges are actively interested in vocational agriculture in the schools.

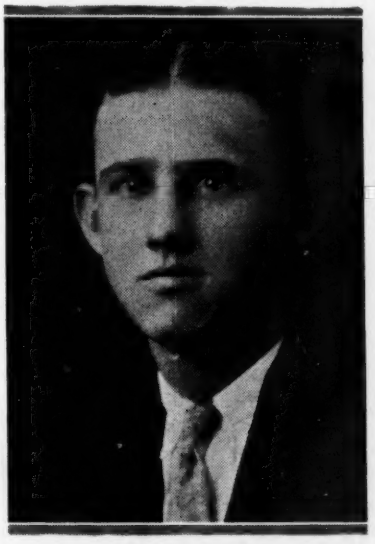
Fourteen hundred boys were present at the state meeting of the Future Farmers of Texas on October 26 and 27 at Dallas.

Wade Turner

(Courtesy of The Progressive Farmer)

Wade Turner

WADE TURNER of Lillington, North Carolina, was elected president of the Future Farmers of America at Kansas City in November. Previously he has been president of the North Carolina state organization.



Carldon Patton

(Courtesy of The Progressive Farmer)

Carldon Patton

THE 18-year-old Arkansas boy who was adjudged the outstanding "American Farmer" for 1929, thereby winning the $1,000 prize of the Kansas City Weekly Star.

During the past three years he has earned $2,593 from his farming operations in addition to attending school regularly. He has re-invested $1,700 of this in farm property. In his supervised practice program he worked with poultry, dairy cattle, feed crops, pastures, corn, and cotton.

During his four years in high school he averaged "A" in his grades. He is now a freshman in the Arkansas State Teachers College at Conway.

Song of the Future Farmers Available

WORDS and music for "The Song of the Future Farmers," the words of which were printed in the May issue of *Agricultural Education*, are now available from Professor V. E. Kivlin of the Department of Agricultural Education, University of Wisconsin. The charge is 15 cents per copy.

The words and air of this stirring song are by E. M. Tiffany, formerly of the Department of Agricultural Education of the University of Wisconsin. The piano accompaniment has been arranged by Mrs. Kivlin.

Montana Future Farmers Visit the International

EIGHTEEN Montana Future Farmers and eleven teachers of vocational agriculture, together with J. E. Border, state supervisor, represented the state at the International Livestock Exposition in November, as guests of the Chicago, Milwaukee and St. Paul Railroad.

The group spent five days in Chicago visiting numerous points of interest in addition to the livestock show. One day was also spent in Minneapolis.

The boys chosen to go were selected on the basis of project work, scholarship, activities, and possibility of future leadership.

National Public Speaking Contest

ARRANGEMENTS have been completed for the first national public speaking contest to take place during the third annual National Congress of Future Farmers. State and regional elimination contests will precede. Details of the contest are available from the state supervisors.

"Surrounded by hundreds of Smith-Hughes high school boys at the Kansas City Royal Livestock show last month, the worst skeptic of our farm life was forced to surrender. These fine, wholesome fellows who are making a special study of agriculture in high school are eloquent testimony that back of them are fine fathers and mothers, sisters and brothers. Given an even break, and led by this class of enterprising young men the future success of our farming industry is completely assured."—*Successful Farming*, Des Moines, Iowa.

The Illinois State Chapter has recently begun to issue a news letter. It is a mimeographed letter, with an attractive head, but two pages long, and entirely composed of reports from local chapters.

Vocational Agriculture and the Chamber of Commerce

(Continued from page 21)

nell carries on the combination work. "Farmers are needing such work as evening schools and soil improvement programs more and more and a vocational man as secretary is the only man we can get that can handle this work effectively. The majority of our people like the combination and want it continued," he added.

"There is no conflict of interest in this, all parties concerned are interested in a common problem," states R. H. Brister, superintendent of schools at Taylor, where W. N. Elam is teacher of vocational agriculture and in charge of the agricultural program of the Chamber of Commerce. "So far as we are concerned, it is a fine plan and a fair distribution of the burden."

Mr. Ed. Bishop is secretary of the Chamber of Commerce at Floydada, a town of 2,000 population. His opinion of the possibilities of the combination job is interesting. He says, "I am of the opinion that the co-operation between an instructor of vocational agriculture and a Chamber of Commerce is essential to the success of both organizations."

Advantages and disadvantages of the combination work, as stated by teachers, Chamber of Commerce officials, and superintendents of schools in 13 situations, follow:

Advantages:

Supplements local funds for teacher's salary.

Makes available office supplies and stenographer.

Furnishes funds and prizes for judging teams.

Helps to enlist interest of business men in evening schools, assistance in promotional and follow-up work for evening school classes.

Supplies funds for financing projects.

Supplies a connection with an organization thru which the teacher may focus the efforts of the community on the program of the agriculture teacher.

A means of securing valuable publicity.

Makes desirable contacts with business men and farmers.

Gives prestige to the teacher.

Program of teacher in large measure becomes program of Chamber of Commerce.

Program of agriculture teacher assists Chamber of Commerce in bringing in agricultural industries, such as milk plants, cheese factories, and poultry plants.

Improves the relationship between the people of the town and those of the country.

Secures co-operation of a group of active supporters.

Keeps business men better informed concerning the progress of the school.

Aids in professional improvement concerning the progress of the school.

Aids in professional improvement of teacher by trips to study agricultural developments.

Local paper more interested in your publicity material.

Supplies the Chamber of Commerce with a man possessing the personality and training able to cope with some of the real problems of the community.

Supplies a common meeting place for farmers and teachers, thus making the agriculture teacher more available.

Disadvantages:

May result in disagreements over division of teacher's time between teaching and Chamber of Commerce activities.

Work not strictly agricultural—consumes too much time.

Too much credit for Chamber of Commerce.

Routine duties of Chamber of Commerce consume time.

Expensive to teacher.

Limits teacher's opportunity of building up a friendship with non-vocational students.

Requires too much time for miscellaneous personal service and work that is not vocational.

Gives agricultural teacher too many bosses; lack of co-operation between the superintendent and business men in Chamber of Commerce results in embarrassing situation for the agricultural teacher.

A Proposed Program of Research

(Continued from page 19)

contribution to the cause. Improvement in research technique counts for most in improving the quality of a study. The research specialist is therefore particularly interested in this phase of research.

The third relationship between the Federal Board and the states arises from the responsibility resting on the agents and specialists of the Federal Board to engage in studies in their special fields.

I wish to mention one such study which is now in its initial stages. As you know, the length of period for vocational agriculture has always been a problem. No one really knows the best length of period for vocational agriculture or for any of the high school subjects.

The problem is most difficult of attack because of the number of factors involved. We are making an approach which seems the only practical one. We are to study the teaching of our most effective teachers of agriculture to see how they utilize the 90-minute period. The method is to make a detailed observation of what occurs during the teaching of a job or other unit. We are now developing by use in three Virginia departments a recording technique. When this technique is developed, we plan to observe the teaching of the most effective teachers in several states.

Most of the data for the studies made by agents and specialists will be secured by them in person; occasionally the states will be asked for data. A word of reassurance is appropriate here. No one has been left in any doubt about the attitude of supervisors and teacher trainers toward the questionnaire. When agents and specialists are not able to obtain the data in person, they may have to resort to other methods. The questionnaire will not be used if any other satisfactory method is possible.

The studies of the agents and specialists are selected because they concern the problem of special importance to the states. They will be national in scope. Those who are engaged in agricultural education can perform a special service by indicating the kinds of studies which will be of greatest value to them.

To summarize my discussion, I have indicated that research is an important function of a program of vocational agriculture. Each state must largely determine its own research program since such a program must be built on the problems of that state. I have sketched briefly under eleven headings what has been done in research up to the present time. Some suggestions as to further studies were added. I have pointed out three relationships between the Federal Board and the states which concern research: (1) the Federal Board as a source of information about studies made and in progress; (2) as a source of advice and suggestion to persons in the stages engaged in research; and (3) the Federal Board thru its agents and specialists carrying on studies which are national in scope.

In closing, may I say that I desire to make all the contacts I can with the research activities of the states represented here?

SAMPLE COPIES AVAILABLE

Due to the varying demand for the different issues of AGRICULTURAL EDUCATION published during 1929, there is available from the Meredith Publishing Company at Des Moines, Iowa, a considerable supply of copies of certain of these issues. The present supply by months is as follows:

January	300	July	0
February	0	August	0
March	400	September	200
April	500	October	0
May	400	November	150
June	200	December	300

It has been arranged that these may be used by our readers in acquainting other persons with the publication. Persons desiring to distribute any of these issues should write the Meredith Company indicating the number desired and the purposes for which they intend to use them. No charge will be made. It is especially urged that state supervisors avail themselves of this opportunity for acquainting agricultural teachers, other school people, and laymen with our professional magazine.

Recent Publications

SMITH, HARRIS P. *Farm Machinery and Equipment*. McGraw Hill Book Company, New York. 1929. 448 pp.

THE first part of the book is given to a brief but clear and well illustrated exposition of the principles of farm machinery. Then the different classes of farm machinery are taken up. The author has the faculty of describing the elements of a machine briefly and clearly. Special emphasis is placed on cotton machinery and on the combined harvester-thresher. The book does not seem too difficult for the third and fourth year high school students.

WAITE, ROY H. *Poultry Science and Practice*. McGraw Hill Book Company, New York. 1929. 433 pp. $3.30.

AN EXCELLENT reference book for the agriculture library. The author has emphasized the recent findings of experimental workers. The organization of the book is similar to that of other poultry texts. The last two chapters are given to an extremely brief statement of turkeys, ducks, and other domesticated birds.

Professor J. A. Starrak of Iowa State College is spending the winter quarter in study at the University of Chicago.